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Special issue: Drought and Dryland Management – a commentary

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Drylands are widespread covering about 41% of Earth's land surface area and are home to over 2 billion inhabitants which is estimated to rise to 3 billion by 2020. Because of the suitability of most of the drylands for human settlement, the original ecosystems have been converted to other land uses, such as croplands and rangelands for livestock grazing. As a result of unsustainable land use practices, adverse climatic conditions and population increase there has been an extensive degradation of dryland ecosystems, which has led to the decline in provision of ecosystem services and ecosystem's resilience. Globally, it is estimated that 10–20% of dryland area is already degraded and about 12 million ha are degraded each year.

Climate change may aggravate degradation of drylands and as a consequence of climate change the extent of global dryland area is projected to increase. Extreme weather events, such as drought may increase in frequency, severity and duration due to climate change and cause major societal crisis, including mass migration of people. Occasional and prolonged droughts which are common and irregular natural phenomena in drylands can exacerbate land degradation by reducing the plant biomass abundance and ground cover vegetation. Hence, enhancing the coping capacity of dryland communities and the environmental resilience in the face of climate change and recurring drought is timely and quintessential.

In order to redress the problems of dryland degradation several global initiatives have been launched and notable among them is the "Land Degradation Neutrality" initiative in the framework of the United Nations Convention to Combat Desertification (UNCCD). If the global rehabilitation initiatives are extensively and fully implemented it may result in an increase in food security, sustainable land management, and resilience of dryland ecosystems and communities. However, there are still challenges to overcome, such as upscaling of rehabilitation interventions, lack of

holistic and landscape-level approach, and difficulties in attaining the sustainability of rehabilitation interventions.

The special issue, available at <http://www.silvafennica.fi/issue/issue/1630>, is a joint project by the Viikki Tropical Resources Institute (VITRI), University of Helsinki and the UNCCD secretariat. The aim of this special issue is to collate the current state-of-knowledge on the biophysical, socioeconomic and policy aspects related to sustainable dryland management. Furthermore, it is to identify currently existing information gaps in drylands management and indicate relevant topics for future natural resources and socioeconomic inventory, research and policy assessment. We hope that the articles in this special issue will be useful for practitioners, researchers, policy makers, and implementation of international dryland management initiatives.

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Articles

in Silva Fennica vol. 51 no. 1B (2017). Special issue: Drought and Dryland Management. Available at <http://www.silvafennica.fi/issue/issue/1630>:

Category: Research article

Genin M., Alifriqui M., Fakhech A., Hafidi M., Ouahmane L., Genin D. (2017). Back to forests in pre-Saharan Morocco? When prickly pear cultivation and traditional agropastoralism reduction promote argan tree regeneration. *Silva Fennica* vol. 51 no. 1B article 1618. <https://doi.org/10.14214/sf.1618>

Yildiz O., Altundağ E., Çetin B., Guner Ş. T., Sarginci M., Toprak B. (2017). Afforestation restoration of saline-sodic soil in the Central Anatolian Region of Turkey using gypsum and sulfur. *Silva Fennica* vol. 51 no. 1B article 1579. <https://doi.org/10.14214/sf.1579>

Salinas-Melgoza M.A., Skutsch M., Lovett J.C., Borrego A. (2017). Carbon emissions from dryland shifting cultivation: a case study of Mexican tropical dry forest. *Silva Fennica* vol. 51 no. 1B article 1553. <https://doi.org/10.14214/sf.1553>

Category: Review article

Yirdaw E., Tigabu M., Monge A. (2017). Rehabilitation of degraded dryland ecosystems – review. *Silva Fennica* vol. 51 no. 1B article 1673. <https://doi.org/10.14214/sf.1673>

Safriel U. (2017). Land Degradation Neutrality (LDN) in drylands and beyond – where has it come from and where does it go. *Silva Fennica* vol. 51 no. 1B article 1650. <https://doi.org/10.14214/sf.1650>

Category: Commentaries

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